



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,279	12/14/2000	Seiji Hiroshima	MITS:024	7933

7590 03/27/2002  
ROSSI & ASSOCIATES  
P.O. Box 826  
Ashburn, VA 20146-0826

EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/737,279

Applicant(s)

HIROSHIMA ET AL.

Examiner

Melody M. Burch

Art Unit

3613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first bearing mounting hole being shorter than the first bearing in the axial direction must be shown or the feature(s) canceled from the claim(s). As broadly claimed, the diameter of the first bearing hole is longer than the first bearing in the axial direction. No new matter should be entered.
2. The drawings are objected to because the non-English symbols shown in figure 1 should be removed.
3. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities: on pg. 2 first line of the first paragraph from the bottom of the page "need" should be changed to --needs--.

Appropriate correction is required.

***Claim Objections***

5. Claims 2, 3, and 10 are objected to because of the following informalities:
- In claims 2 and 10 the phrase "the housing, covers" first appearing in claim 2 line 3 from the bottom should be changed to --the housing and covers-- for grammatical purposes;
  - In claim 3 the contractions should be removed;
  - Re: claims 7 and 8. In claim 7 line 2 Examiner recommends using --a first flange-- and --a second flange-- instead of "a flange" since the invention includes two flanges.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. The phrase "belt-type" is indefinite. The phrase does not clearly define the metes and bounds of the claim limitation.

Re: claims 1, 2, 7, 8, 10, and 11. Claims recite the limitation "the housing inward

Art Unit: 3613

side" first appearing in claim 1 line 12. There is insufficient antecedent basis for this limitation in the claim.

Re: claims 1 and 10. Claims recite the limitation "the one shaft" first appearing in claim 1 line 9. There is insufficient antecedent basis for this limitation in the claim.

Re: claims 4-8. The phrase "the first bearing mounting hole is shorter than the first bearing in the axial direction" is indefinite. It is unclear to the Examiner whether the Applicant intends to claim that in the axial direction the first bearing hole is shorter than the first bearing or that the first bearing mounting hole is shorter than axial length of the first bearing. Clarification is required. Also see Drawing Objection.

Re: claims 7 and 8. Claims recite the limitation "the cover" first appearing in claim 7 last line. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Neuman et al. Neuman et al. shows in figures 1 and 2 a belt-type continuously variable transmission comprising: a continuously variable transmission mechanism comprising: a primary shaft 20 having a primary pulley 24; a secondary shaft 32 having a secondary pulley 28, and an endless belt 33 wound on the primary pulley and the secondary pulley, a

Art Unit: 3613

housing (outlined in blue in the copy of figure 1 attached with the Action) that accommodates the continuously variable transmission mechanism, the housing having an end wall that is formed with a first bearing mounting hole through which one end portion of one 20 of the primary shaft and the secondary shaft penetrates, a first bearing (outlined in yellow in the copy of figure 1 attached with the Action) that is fitted in the first bearing mounting hole and allows the one shaft 20 to be supported rotatably by the end wall, a flange (indicated by the Examiner in the copy of figure 1) that projects from an inside circumferential surface of the first bearing mounting hole on the housing inward side, a bearing retainer (outlined in orange in the copy of figure 1 attached with the Action) that is provided on an outside surface of the end wall so as to project inward in a radial direction of the first bearing mounting hole and that cooperates with the flange to pinch the first bearing, and a first cover (outlined in yellow in the copy of figure 1 attached with the Action) that is connected to the housing (at the bottom of the figure) and covers the one end portion of the one shaft and the bearing retainer.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neuman et al. in view of Lamers. Neuman et al. show in figures 1 and 2 the end wall being formed with a second bearing mounting hole shown to the left

of element number 31 through which one end portion of the other 32 of the primary shaft and the secondary shaft penetrates, the belt-type continuously variable transmission further comprising: a second bearing (outlined in orange in the copy of figure 1 attached with the Action) that is fitted in the second bearing mounting hole and allows the other shaft 32 to be supported rotatably by the end wall, an urging member (outlined in red in the copy of figure 1 attached with the Action) that is in contact with a side surface of the second bearing on the housing inward side, and a second cover (outlined in red in the copy of figure 1 attached with the Action) that is connected to the housing via element 32 and the second bearing and covers the one end portion of the other shaft 32 and cooperates with the urging member to pinch the second bearing in the axial direction .

Lamers teaches in figure 2 and in col. 2 line 55 the use of an urging member 22 being elastically deformable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the urging member of Neuman et al. to have been elastically deformable, as taught by Lamers, in the axial direction of the primary shaft and the secondary shaft in order to provide a means of biasing the bearing against the flange portion of element 31 to assist in securing the bearing in place.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neuman et al. in view of Lamers as applied to claim 2 above, and further in view of Hattori.

Neuman et al. show in figure 1 the first and second covers having passages as indicated by Examiner in the copy of figure 1 attached to the Action. Hattori teaches the

Art Unit: 3613

use of passages 64 and 13d as shown in figure 1 being oil passages through which oil is supplied to the continuously variable transmission mechanism. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the passages of the covers of Neuman to have included oil passages, as taught by Hattori, as it is well-known in the art to provide covers with passages in order to provide a means of transporting a working medium, for example, oil throughout the mechanism for lubricating purposes.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 6280357 to Van Spijk, 5800299 to Lamers et al., 5361744 to Teraoka, Japanese Patent JP-5288261, and 4838834 to Miyata teach the use of similar dual shaft CVT systems, 5439419 to Yamada et al. teaches the use of an urging member 134 and 6015359 to Kunii teaches the use of a bearing, housing, cover arrangement, German Patent DE-3200439 teaches the relationship of a hole being shorter than a bearing width in the abstract, and Japanese Patent JP-61-48657 teaches the use of dual shaft CVT with two covers 20 and 22 connected to the housing 10 and covering one end portion of the shafts 12 and 14 and covering the bearing retainer 28 and 64, respectively, but does not disclose a flange that projects from an inside circumferential surface of the bearing mounting hole.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).




Application/Control Number: 09/737,279  
Art Unit: 3613

Page 8

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

*mmb* 3/20/02  
mmb  
March 20, 2002

  
PAUL N. DICKSON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

